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## CCNLP LAB ASSIGNMENT - 04.

### Problem Statement :

Watson Personality Insights - Suggest the user suitable books or movies, based on his personality traits.

Download a speech or blog of the user and use IBM watson personality insights service to predict which books or movies he would like.

### Objectives:

1. To study and explore IBM watson Personality Insights API
2. To learn concepts of Personality traits and recommendation based on that.

### Theory:-

- IBM watson Personality Insights API - Explain methods used in Personality Insights.

This service enables applications to derive insights from social media enterprise data, or other digital communications. The service uses linguistic



analytics to infer individuals, intrinsic personality characteristics, including Big Five, Needs and Values from digital communication such as email, text, tweet, and forum post.

Method: Cret profile:-

→ profile (self, content, accept, content-type = None, content-language = None, accept-language = None, raw-scores = None, osu-headers = None, \*\*kwar).

- Explain Personality models.

The Personality Insights Service enables applications to derive insights from social media, enterprise data, or other digital communication. It is based on the psychology of language in combination with data analytics algorithm.

- Recommendation based on Personality Insights.

The service infers personality characteristics based on three models.

a) Big Five Personality characteristics represent the mostly widely used model.



For generally describing how a person engages with the world. The model includes five primary decisions:-

- 1) Agreeableness:- compassionate and cooperative
- 2) Conscientiousness - It is a person's tendency to act in an organized or thoughtful way.
- 3) Extraversion - person's tendency to seek stimulation in company of others.
- 4) Emotional range - Sensitive of Environmental emotional states.
- 5) Openness - open to experience different activities

- Needs describe which aspects of a products resonate with a person. The model includes twelve characteristic needs

- Values describe motivating factors that influence a person's decision making.

→ Algorithm.

- Get Profile

- Generate a personality profile for the author of the input text.

- The service accepts a maximum of 20 mb of input content but it requires much less text to produce an accurate profile. The service can be used to



analyse text in Arabic, English, Japanese, Korean, or Spanish.

- Import all the required packages.
- Connect to IBM Authenticator and access method to process to profile json
- Return clean segmented output

→ Platform :- 64-bit Open source Linux, IBM Watson Cloud, Json

→ Input :- User blog, text, user's speech

→ Output :- uses personality traits analysis.

→ Conclusion :- Hence, learned the concepts of users/customers personality traits and recommendation using IBM Watson Personality Insights.

FAQs:-

1) List and explain algorithms used in Recommendation System?

Ans:- Recommendation System Algorithm:-

I. Collaborative filtering :- There are two basic approaches user based and item based. In both cases it has 2 steps:-



i) Find out how many user / item in the database are similar to the given user / item.

ii) Assess other users / items to predict what grade you would give the uses of this product given the total weight of users / items that are more similar to this one.

## II Matrix decomposition for recommendations:-

It is a class of collaborative filtering algorithms used in recommender system. It works by decomposing the user-item interaction matrix into the product of two lower dimensionality rectangular matrices.

## III Clustering:-

When we have enough data it's better to use clustering as the first step for shrinking the selection of relevant neighbour in collaborative filtering algorithms. It can also improve the performance of complex recommendation systems.

## IV Deep learning approach:-

These are wide range of application and are gradually replacing traditional ML methods.

Q2.] Explain the how recommendation system is useful for business.



Ans:- Recommendation Systems are very impactful in user to customer conversion and are very prominent in seeking potential buyers in path of tech marketing. It is the ease of classifying required product that helps the customer in getting ease of search. Recommendation System helps customer's redirection toward required material.